SUMMARY

This study aimed to assess the results and complications of secondary intraocular lens implantation using transscleral suture to support the lens in absence of capsular support .

The study included 40 eyes for 40 patients that attended the out patient clinic of Benha University Hospital . All were sharing same problem which was unilateral aphakia . The goal was to correct this unilateral aphakia by implanting a posterior chamber intraocular lens despite of absence of capsular support.

A C loop one piece posterior chamber IOL , with a large optical diameter not less than 6.5 mm was implanted in all eyes .An ab externo technique using prolene 10/0 on 16mm long double armed straight needle.This technique allowed accurate determination of the site of entry and exit of the prolene suture to be 180 degrees apart from each other reducing the possibility of decentration .Distance from posterior surgical limbus can be also determined to be 0.8 to 1mm ,which coincide with the surface anatomy of the ciliary sulcus increasing the chance of IOL haptic placement inside the ciliary sulcus . Also reducing the possibility of injuring the ciliary body .

All patients submitted for the operation were followed up for at least 6 months postoperatively.

The visual acuity improved in 77.5% of cases , 10% of cases showed no change in visual acuity ,12.5% of cases showed decrease of the best corrected preoperative visual acuity ,due to corneal oedema secondary to increased IOP, opaque pupillary membranes and macular oedema . Not only the visual acuity improved quantitatively in most of the cases ,but also qualitative improvement in vision , as there was no image magnification induced by spectacle correction .

Increased post operative intraocular pressure occurred in 7.5% of cases , transscleral suture fixation was not the cause for postoperative IOP rise.

Corneal thickness changes : there were no great increase in post operative corneal thickness and no cases of corneal decompensation occured.

The operative difficulties which were met in this technique were.

-Fashioning scleral flap at 8 o'clock was difficult especially in sunken eyes

-Bleeding during conjunctival dissection may be excessive especially in cases of previous rupture globe .

-Cutting prolene suture especially during wound enlargement, synechiotomy and vitrectomy. Also during traction on the suture while implanting IOL or tying the knot to the sclera.This was a common difficulty in first few cases .

-Difficult synechiotomy : Tough membranes may be found adhering back of the iris to vitreous .

-Hypotony was troubling in cases where anterior vitrectomy was done, reformation of intra ocular pressure by viscoelastic and closure of corneoscleral wound was performed to build intra ocular pressure to facilitate passage of needles without causing much distortion to the eye .

Post operative iridocyclitis : Was the most common post operative complication .It was common in children and those suffering from rupture globe severity ranges from moderate flare ++ and pigment deposit to membrane formation, requiring surgical excision .

Suture erosion through the conjunctiva : 3 cases 7.5% showed prolene knot erosion through the conjunctiva ,patient was not

complaining from irritation and there were no leakage proved by fluoresciene test .This carried the risk of delayed endophthalmitis ,and should be covered by conjunctival graft until a donor corneal graft is available .

Intra vitreal hemorrhage occurred in 5 cases 12.5% , the amount of bleeding was minimal absorbed within one week .

CONCLUSION

- ***In conclusion the technique of suture fixation of IOL needs to be trained before trials to suture an IOL for the first time .***
- ***Suture fixation of intra ocular lenses is a quite safe technique***
- ***Every anterior segment surgeon should train how to suture a posterior chamber IOL. Because any one may be faced with a situation where there is no way for correction of aphakia except suturing a posterior chamber lens .***
- ***Surgeons are not advised to do suture fixation of IOL for the first time during operation ,when faced with a problem .***
  Suturing material and needles designed for scleral fixation of posterior chamber IOL should be used.